THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

$2.00 PER YEAR. ESTABLISHED 1878. 10c. SINGLE COPY.

VOL. XVIII. CLEVELAND, OHIO, APRIL 4, 1895. NO. 14

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and im rove the character of the service rendered to the public.

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STORM WARNINGS BY ELECTRIC LIGHT.

A powerful electric light flashing its rays from the top of a high building away beyond St. Clair Flats and out upon Lake Erie is something Detroiters are likely to see within a few months. The officers of the weather bureau have satisfactory figures from electric light companies, and are now waiting for the government to provide reflectors. If they succeed in their purpose, Detroit will be the second station on the lakes to be provided with one of these powerful and valuable aids to the weather service. The Chicago station has already a search light in successful operation.

It has been demonstrated that a green light can be thrown a distance of 39 miles by one of these search lights, and a white light will penetrate the atmosphere to even a greater distance. A red light is slightly less powerful than the green one. Boats going either up or down could be notified of the approach of a storm from one to three hours after passing Detroit, as the signal would reach them some distance beyond the Flats and at Amherstburg. These signals would often prevent boats from venturing out upon Lake Huron and Lake Erie when the near approach of bad weather could be stated positively.

NEW SAILING DIRECTIONS.

The Hydrographic Office, U. S. N. has just issued another volume of sailing directions covering Lake Michigan, Green Bay and the Straits of Mackinac. This is part second of the sailing directions of the lakes—the first book covered Lake Superior—and will be followed by bound sailing directions for Lake Huron, with the St. Clair and Detroit Rivers and Lake St. Clair, and finally by Lakes Erie and Ontario, with the St. Lawrence River to Montreal.

Too much credit can not be given the Hydrographic department for the inclusive manner in which the books are compiled, covering as they do, every known obstruction, besides a mass of other valuable data. Each volume is sold at the nominal cost of one dollar.

REMOVALS OF WRECKS AND DERELICTS.

An Act of Congress, approved June 14, 1880, requires the Secretary of War, whenever the navigation of any river, lake, harbor, bay or other navigable water of the United States is obstructed or endangered by any sunken vessel or water-craft, to have the obstruction removed after giving public notice for 30 days to interested parties of the proposed removal of the same. The War Department has committed the execution of wrecking operations to the chief of engineers of the United States Army, and under the direction of the officers of the corps of engineers the following wrecks have been removed during the period of five years from July 1, 1888, to June 30, 1893, on the Atlantic and Gulf coasts of the United States:

Fifty-one schooners of various sizes; 25 barges, scows, canal boats, etc.; 12 steamships and steamboats; 5 barks; 5 wrecked vessels, class unknown; 3 ships; 1 U. S. Transport; 1 steam yacht, and 1 steam tug. Total, 104 of all classes.

The entire cost of these wrecking operations was $124,627.37. Outside the zone of operations of the officers of the army, wrecks and derelicts have been removed by naval vessels when practicable.

THE HOLLAND SUBMARINE TORPEDO BOAT.

Secretary Herbert, of the Navy, has executed a contract with the John P. Holland Torpedo Boat Co., of New York, for building a submarine torpedo boat at a total cost of $150,000. The principal dimensions of the boat are to be: Length, 80 feet; diameter, 11 feet, and displacement, 138.5 tons. Government inspectors are to watch the construction of the craft, and all the material used in it is to be of domestic manufacture. The boat is to be completed in every respect by the 26th of March, 1896, and in case the completion should be deferred penalties will be exacted. When completed in every respect her trial will occur. Under the conditions guaranteed, the vessel is to give not less than 15 knots when in a light condition; fourteen knots when awash, with a minimum endurance at these speeds, using only steam power, and eight knots an hour when the vessel is completely submerged, with a minimum endurance of six hours at this speed. If the speed developed by the vessel upon the trial falls below thirteen and a half knots for the light condition, or twelve and a half knots for the awash condition, or six and a half knots when submerged, the Secretary of the Navy is given discretion to reject the vessel, or to accept her at a reduced price.

NOTICE TO MARINERS.

ANGLE LIGHT, STURGEON BAY, WISCONSIN.—Notice is hereby given to masters, pilots and all other persons navigating the waters of Sturgeon Bay between the bridge and the west end of the Sturgeon Bay and Lake Michigan Ship Canal, or who are interested in the navigation of the same, that the location of the "Angle Light" this season is 244 feet North-West, or Bayward, of where it was last year.

The "Angle Light" marks the turn in the channel at the head of Sturgeon Bay, where the channel dredged in continuation of the canal proper begins.

By direction of

CAPTAIN CARL F. PALFREY,
Corps of Engineers, U. S. Army.

ADAM N. DIER,
Superintendent.

FORT GRATIOT LIGHT STATION.—Notice is hereby given that, on the opening of navigation, 1895, the characteristic of the 8-inch steam whistle at this station, at the head of the St. Clair River, Lake Huron, will be changed to souud, during thick or foggy weather, blasts of 3 seconds' duration, separated by silent intervals, thus:

Blast	Silent interval	Blast	Silent interval
3 sec.	17 sec.	3 sec.	17 sec.

By order of the light-house board.

JOHN G. WALKER,
Rear Admiral, U. S. Navy, Chairman.

Office of the Light-House Board, Washington, D. C., March 25, 1895.

AMENDED DIRECTIONS FOR ENTERING COLLINGWOOD HARBOR.

With reference to "Notice to Mariners No. 1 of 1895," attention is called to an error in the directions for entering Collingwood Harbor, which should read: "To enter the harbor from the westward keep about half a mile off shore until the Inner light opens a little eastward of the Breakwater pier light, when haul for the former bearing S. 3° 30′ E., and leave the west breakwater distant 25 yards on the starboard hand. Keep heading for the Inner light until within 100 yards of it, when haul gradually for the wharves." In day time the range for entering is Carpenters' Windmill (in the town) in line with the Inner light, bearing S. 3° 30′ E. If the Breakwater light were left 250 feet distant in passing, as advised in Notice No. 1, it would throw vessels onto the spit running out from the east breakwater pier.

NEWS AROUND THE LAKES.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

The Roanoke O. E. Parks, A. R. Colburn and Frank Woods are fitted up at Michigan City and awaiting a chance to get out.

The steel steamer W. H. Gratwick was chartered Monday for wheat and corn to Buffalo and the steamer H. H. Brown for wheat to Erie at 1⅛ cents, a drop of ¼ cents since former quotations.

Bigelow Bros., the well-known lumbering firm of this city, are negotiating with Capt. James Davidson, of Bay City, for the purchase of one of his new lumber-carrying steamers, with the intention of turning over the steamer Robert Holland in part payment. The Holland was formerly known as the Northern Queen.

Grand Haven people are trying to get the Big Four people to extend their line thither from Benton Harbor, and establish a terminal at Grand Haven for connection with Milwaukee and western points by steamer. A successful issue of the negotiations is confidently expected.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The ice in Buffalo Creek and Blackwell Canal is so thoroughly broken up as to offer no resistence to careful navigation, and grain-laden steamers are arranging to get to the elevators as rapidly as possible.

Lake line managers have agreed upon the following east bound rates, to take effect on the opening of navigation. On flour and grain products, including oilcake, Chicago and Milwaukee to New York, 15 cents per 100 pounds; Duluth and West Superior to New York, 17½ cents per 100 pounds.

Capt. Wm. Fletcher has been re-appointed shipping agent of the Lake Carriers' Association here, but will not be given an assistant at present.

The aldermen have made provision in the year's estimate for a bridge to replace the narrow and otherwise insufficient one at the foot of Michigan street on the creek. The plans call for a jack-knife pattern, but are subject to modification.

Gen. Mgr. John Gordon announces officially the appointment to the command of the passenger steamship North West of Capt. Wesley C. Brown, formerly of the steamer Centurion.

Whatever may be the outcome of the litigation between the City of Buffalo and the Lackawanna railroad in regard to the ownership of the dock at the foot of Main street, the Northern Steamship Co. intends to continue to use the wharf. F. P. Gordon, of the Northern Steamship Co., said yesterday: "Of course, we believe in the Lackawanna's claim to ownership in the dock, but even if it should at any time be decided that it belongs to the city, the parties who are trying to lease the privilege would have a hard time of it. If it belongs to the city, it is public property and can not be let for private purposes."

Henry J. L. Fish, formerly superintendent of the western division of the Erie Canal, and also for many years a member of the old Buffalo Board of Trade, at which time he was engaged in the canal forwarding business, died a few days ago at Rochester, of which city he was one time mayor. His funeral took place here on Wednesday.

Gen. Pass. Agent "Billy" Herman, and general freight agent of the Cleveland and Buffalo line, were in the city Tuesday, to attend the marriage of the latter's brother, Mr. Herbert B. Rogers, to Miss Laura Hazzard, of this city.

The harbor and canal-improvement committee of the Merchant's Exchange has prepared resolutions protesting against the passage of a bill which has been introduced in the legislature to revive the franchise of the company which formerly had a cable towing scheme for the canal.

Mr. J. A. Roland, having severed his connection with Messrs. Brown & Co., has taken the Office, Room 4, No. 202 Main Street, for the purpose of carrying on a Vessel Agency and Marine Insurance business. From his long experience in the vessel business, he is in a position to guarantee satisfaction in the handling of charters entrusted to him.

CLEVELAND, O.

Special Correspondence to The Marine Record.

Mr. Wm. J. Wood who was for four years draughtsman with The Globe Iron Works Co., and lately with the Cleveland Shipbuilding Co., has just been engaged by the Wisconsin & Michigan Railway Co., the 4 A. road, to superintend the design and construction of the of their new large car ferries which are to be built by Capt. Jas. Davidson of Bay City.

William E. Volz M. E., of the Wheeler Condenser and Engineering Co., New York, visited this port Thursday, and called on the shipbuilding firms in the interest of his company. Mr. Volz has enjoyed an extensive western tour during the past two weeks, and I am pleased to state that he was formerly a resident of this city.

The Keaskey & Mattison Co., have closed contracts to cover the boilers and pipe of the following steamers with the famous Magnesia Sextional Covering: Phillip Minch, Horace A. Tuttle, J. C. Lockwood, Norma, Gilchrist, State of Ohio, and also the elecrical plant of Cleveland Alluminum Co.

According to official measurement the new steel Gratwick-Mitchell steamer approaching completion at the F. W. Wheeler & Co., yard in West Bay City will register 3400.08 gross, and 2809.93 net tons. She will be named the J. J. McWilliams.

Col. Smith, of the United States engineer corps, says that all strong easterly wind raise the level of Lake Erie in nearly all the westerly half, while lowering it at all easterly points, and vice versa. Assistant Engineer Blunt says that in the terrible gale in which the Dean Richmond and Wocoken went down the water at Toledo was lowered 6 feet 8 inches and raised at Buffalo 5 feet 3 inches. In other words, the lake ran up hill nearly 12 feet between the two points.

Chief Engineer James Y. Randall of the Cleveland & Buffalo steamer State of Ohio, has taken a consort in tow. She was formerly Miss Della Donaldson of the West Side, Cleveland.

Contractor J. C. Engle is busy repairing the city dock at the foot of St. Clair St. The repairs amounted to about $1,000 and will be completed in about ten days.

The strike of the Cleveland boilermakers is ended, both sides making concessions.

As a sign of the times the *Cleveland Leader* mentions the fact that the steamer V. Swain is lying at the head of the old river bed full of water, and adds that she may be taken out into the lake and sunk during the coming summer. The Swain was built at Cleveland in 1874 and has a measurement of 817 tons. Her rating has run into the B class, and fire two seasons ago added its demoralizing influence upon her condition. Being double-decked it will not pay to cut her down for lumber carrying, and steamers of her size are no longer profitable in the grain, coal and ore trade. Hence any money spent to put her in seagoing condition would be little better than thrown away.

Spring business is opening up with the Detroit & Cleveland Steam Navigation Co. The City of Detroit will make her first trip to Cleveland Wednesday morning, and will make trips thereafter Mondays, Wednesdays and Fridays at 11 p. m.

DETROIT, MICH.

Special Correspondence to The Marine Record.

With so many passenger lines to Mackinaw, a rate war is confidently looked for by Detroit people this year. The rate to Mackinaw by the Northern Line steamers is $9 for transportation and about $8 for meals and berth, a total of $17. On the D. & C. steamers he pays $7 for transportation and $6.50 for meals and berth, or $13.50. The Cambria, Carmona and Manitoba Line have not yet announced their rates, but they are expected to be lower than the above.

The steamers Monarch and United Empire, of the Northwest Transportation Co., will run between Windsor and Duluth, instead of between Sarnia and Duluth, as heretofore. They will have competition in the Carmona as far as the Sault. The latter boat passed a few days ago from the hands of Smith & Keighley, of Kingston, to Mr. Brown, of Port Arthur, the consideration being $15,000.

Following are the spring grain cargo rates out of Detroit: To Cleveland, steamers, 15 cents, sail 20 cents; to Buffalo and Erie, 25 cents and 30 cents; to Lake Ontario ports, 35 cents and 40 cents; to Ogdensburg, 40 cents and 45 cents; to Montreal, 60 cents and 70 cents.

The schooners J. S. Richards was loaded with wheat Monday at the union depot elevator. She has been chartered to carry the cargo to Cape Vincent.

Capt. Jack Dunseith has bought Capt. Ed. Williams' one-third interest in the tug Fannie L. Baker, of Toledo. This makes him a two-thirds owner.

Until June 1 the steamer Newsboy will run on the Amherstburg route. The Wyandotte will then take her place and the Newsboy will run to Mt. Clemens.

The owners of the steamer Unique expect to have her ready to run by April 20. They are also confident that the new Babcock and Wilcox boilers will give her a speed of twenty miles per hour. If she runs as well as one of her owners ran for Supreme Court Justice, she will be a hummer.

O. W. Shipman, in addition to his dock properly at Amherstburg, has bought the dock last year operated by Mullen, giving him a total fueling frontage of 1,000 feet. He will put up a fueling arrangement similar to that on the Smith dock, and will cater to the trade of the passing steamers.

A resolution has been adopted by the Chamber of Commerce opposing the construction of the sanitary canal in Chicago, which it is believed would be detrimental to shipping where a depth of at least twenty feet must be preserved.

The steamer John H. Pauly was hauled out on Walter Oades' marine railway Monday for general overhauling.

Frank E. Kirby is drawing plans for a successor to the Chicora, but she will be larger, and will cost $200,0000.

Last fall the property holders of Grosse Pointe petitioned the Secretary of War for the establishment of harbor lines at that point. Mr. Lamont referred the Mayor to Gen. Poe, and during the winter he surveyed the shore from the Windmill Point light-house to Milk River Point. His plan for lines has been approved by the secretary. Straight lines are used, and there are three turning points to conform with the general formation of the shore, and these points will be marked by reference stones placed on the land to give distances from one point to another, and from the location of the stone to the harbor line. The lines are really a continuation of the harbor lines of Detroit. Many of the people who own land at the points of deepest indentation find themselves with half a mile or more of water on their hands which is their sole property, and which must be filled in if they want to transform it into real estate. This would not be a very difficult process, however, as the water for some distance out from the shore is quite shallow.

PORT HURON, MICH.

Special Correspondence to The Marine Record.

The Jenks Shipbuilding Co. are putting the iron boiler house on their steamer Linden, and completing her for the approaching season's work.

Wm. Love, boilermaker, has just completed repairs on the boiler of the steamer T. D. Stimson, and supplied her with a new smoke-stack; he also put new composition flues in the heater of the steamer Iosco.

Fred. J. Dunford, of the firm of Dunford & Alverson, has built a naptha launch for his own use on St. Clair River and vicinity. Her dimensions are 25 feet over all, 6 feet beam, 3 feet depth with 4 horse power engine. She will carry 20 persons and run 8 miles per hour. She is well built and is of very handsome model.

The Port Huron Dry Dock Iron Works have received many orders for work which they will commence on as soon as fitting out begins.

Miller & Son, tunnel fueling dock, have added 150 feet dock frontage to their original dock, which will give steamers additional dockage to tie up at in thick weather. All are welcome.

Henry White, marine boiler makers, Michigan Boiler Works, are building a submerged marine tube boiler, 42 inches high, 30 inches diameter, 140 lbs. pressure, for Capt. Rattray, of Algonac, for a steam launch. They have just finished a submerged marine tube boiler 42 inches by 30 in., 125 lbs. steam pressure for a new steam launch building at the Wolverine Dry Dock Co.'s shipyard. They have completed a fire box marine boiler 6½ ft. diameter, 12 ft long, 120 lbs. pressure for the tug James Adams, and recently built a Scotch type boiler 3 ft. 8 in. by 8 ft. for McHaney Bros., Marine City, for a self-propelling pile driver.

A. H. Schofield, Tunnel City Boiler Works, is building

two marine fire box boilers, 11 ft. diameter, 16 ft. long for the steamers Sparta and Havana, also a boiler for the steam yacht Schofield, allowed 150 lbs. steam and is doing considerable repair work.

Capt. John McArthur, will sail during the coming season the steamer John B. Trevor. This is the fifth new whaleback he has brought out during the past four years.

Inspector Van Liew and Danger are kept very busy at the usual spring work of inspection. Nearly all the boats lying here are already being fitted out.

Capt. John Buzzard, who sustained a fractured leg early last fall, is able to get around, with the aid of crutches.

Repairs are being pushed on the tug Brockway. As soon as navigation opens she and the Merrick will be stationed at the Sault.

The Kendall Marine Reporting Company has purchased two fine new boats for use on the river in connection with their reporting and vessel agency. Both their office telephones are numbered 61.

McCollom & Lee's dredge has been completely overhauled during the winter. A new boiler has also been placed in their tug Adams.

The running ice in St. Clair River is doing more damage than usual to the docks on account of its thickness.

Huronia E. M. B. A. has issued a very neat souvenir manual for marine engineers. The book contains a list of the members of Huronia Lodge, with their street numbers, a table of wages, the rates of postage, and numerous short articles of interest to members of the profession. The book is liberally supplied with advertisements of marine machinery and engineering supplies.

The dredge companies are all ready to go to work on the twenty-one foot channel as soon as the ice will permit. They have both increased the power of their tugs. Puller and Adams, the former with a new engine, and the latter with a new boiler.

The latest reports from Sand Beach and Lexington state that the northeast wind has blown the ice over from the Canadian shore, and there is a great deal of it. This was on Sunday, and the telephone connection with these places was burned out by lightning on Sunday night. In this locality the ice extends out as far as the eye can reach from Fort Grattiot Light, and a brisk northeast wind is blowing on Tuesday. There was some rain, last night, but it froze as it fell.

Capt. John Little will sail the schooner Wm. Young the coming season. She will be towed by the steamer Pawnee and will trade most of the time in the lumber trade.

The pilots of this city are agitating the matter of forming an association. An organizer from Buffalo is expected here this week, when the proper steps toward organization will be taken. There are forty or fifty pilots who make this city their home.

ALGONAC, MICH.

Special Correspondence to The Marine Record.

Abram Smith & Son, shipbuilders are building for sale, a hull for steam, dimensions 200 feet keel, 215 feet over all, 36 feet beam, 12½ feet hold, main keelsons 12 by 13 inches, two sister keelsons 12 by 12 inches, two rider keelsons 12 by 12 inches, two top rider keelsons 10 by 12 inches, floor timber 11 by 16 inches at the keel and 11 by 13½ inches at the bilge, outside plank 4 inches, ceiling in the bilges 6 inches, clamps 5 by 40 inches, shaft 5 by 30 inches, rail 6 by 17 inches. She will be thoroughly square fastened and will have steel strapping, steel cord and steel arches. She is being built of the very finest timber which is obtained on the spot and would make any shipbuilder's eyes turn green with envy. Her carrying capacity with machinery is estimated at 950,000 to 1,000,000 feet of lumber, without machinery 1,100,000 feet. She will be ready for commission by the middle of May next.

This firm is giving the steamer Wyoming, owned by Loud & Sons, Oscoda, a new fore castle deck and a general rebuild and recalking. The barge John Breden is also receiving a thorough rebuild. They have lying up in their slips the barges W. K. Moore, Interlaken, Abram Smith, John Breden, Lady Franklin, Jupiter, and Church, and the steamer Wyoming. While in many places shipyard work has been very slack, in their yard it has been unusually good which speaks well of their yard and their work. They have an abundance of fine timber on hand and are ready to take any orders to build or rebuild which may come to them.

DULUTH AND SUPERIOR.

Special Correspondence to The Marine Record.

The Duluth and Superior Vessel Owners' and Agents' Association has elected the following officers: President, J. T. Rose; vice president, Dan Christie; treasurer, J. P. Gordon; secretary, Charles W. Leland; executive committee, Alex. McDougall, F. N. LaSalle and Harry Hurdon.

The St. Paul and Western Coal Co., with offices and docks on Conner's Point, have awarded the Barnett & Record Co., of Superior, a $50,000 contract for extensive building and improvements. The hard coal shed is to be lengthened about 300 feet for the purpose of protecting the coal from rain and weather, the other docks will be generally improved and a number of hard coal conveyors will be put in.

A resolution is pending in the Minnesota Legislature looking to the annexation of that part of Wisconsin in which the city of Superior is located, in order that the two municipalities may be consolidated. The governor of Minnesota is to appoint five commissioners to act with a like body, whose appointment by the Wisconsin authorities is asked, to investigate the whole matter and determine on necessary steps for the accomplishment of the project if it is deemed advisable. The resolutions are long, and recite as the reasons for such action, greater economy in municipal affairs and greater general prosperity of the consolidated city. The resolution is the outcome of the fight between the West Superior elevator and grain men and the board of trade. Its accomplishment would require amendments to the constitutions of both states, and the consolidation could not be accomplished in less than four years.

ALPENA, MICH.

Special Correspondence to The Marine Record.

The son of Capt. Adam Kunna, Alpena, met with a serious accident a few days ago. It appears that while skating on Thunder Bay, he was run down by an ice-boat and besides breaking his leg he received severe injuries about the head. The youth is about eighteen years old and generally well liked, so that much sympathy is expressed for him, though it is hoped that no permanent effects will result from his accident.

Lake seamen won't know the old Canadian steamer Enterprise when she comes out in a few weeks. It will be remembered that the Enterprise of St. Catherines, Ont., went ashore on North Point reef early last fall. She was loaded with 27,000 bushels of wheat, and after removing part of the machinery both vessel and cargo were given up by the owners as a total loss. Mr. F. W. Gilchrist, the well-known vessel owner of this city, then purchased the vessel and machinery for a nominal sum, and after taking her off the rocks towed her to Bay City, where she was put in Davidson's dry dock. The hull was thoroughly repaired, with new frames forward, new garboard streaks, new planking wherever needed, new rudder and rudder post, etc. She was then brought back to Alpena, and a gang of upward of 20 men have been at work upon her all winter. She has received new bulkheads, new deck and deck beams, and entire new upper works. She has a compound engine and steel boilers only four years old, and the machinery has been put in first-class condition. The work has been done thoroughly under charge of Capt. Thos. Lillis. The Enterprise is now practically a new vessel, will be re-christened the Norseman and be put in the grain trade under command of Capt. John Stewart. The expense of the rebuild will be about $20,000.

The lake tug John Owen of the Gilchrist & Fletcher Wrecking Co. is also receiving a rebuild, with entire new upper works. Upward of 60 men are employed on the two vessels.

OGDENSBURG, N. Y.

Special Correspondence to The Marine Record.

The steambarge Hopkins, in winter quarters at this port, broke the bed plate of her engine last season. This plate weighs 5½ tons, and Nash Bros. have undertaken its repair by putting in new pillar blocks of steel, weighing 2,300 pounds. A new steel crosshead weighing 1,000 pounds is also to be placed on her engine.

Among the repairs being made to the steambarge Denver of the Fitzgerald line of Milwaukee, is the cutting off of the tail rod of her piston and the making of a set of piston rings.

Carpenters have commenced laying the frame for a marine drill scow for John Hannan at his shipyards. The new boat will be 72 feet over all, 7 feet depth of hold and 22 feet beam. She will have oak frames fitted with steel knees and iron trusses. Four spuds, one at each corner, will keep the scow in position, being 45 feet long, 16 inches square, of Washington red fir wood. The drill scow is for use in the government contracts awarded to Hannan & Lynch for the removal of rocks in the St. Lawrence River near Crossover light. It will be provided with two Ingersol drills that can be operated from one side or either end of the boat. The drill carriage runs on an iron track affording convenience in changing positions of drills without altering position of scow. A 30-horse power boiler and a 25-horse power engine will be used. The drills will be operated by hydraulic and steam pressure and promise to revolutionize this work hereabouts. When a hole has been drilled a suitable depth, a charge will be inserted and set off without moving the scow, and to provide for any possible injury from flying fragments of rock, a bottom of tamarack has been placed on the boat six inches thick. It is to be provided with air tight compartments, four of which will be 30x4 feet, the other being 20x6 feet. It is desired to have the scow ready for work by May.

MARINE CITY, MICH.

Special Correspondence to The Marine Record.

Alex. Anderson, shipbuilder, is building a steamer 175 ft. keel, 187 ft. over all, 34 ft. molded beam, 12 ft. hold, for Jesse Farwell et al. of Detroit. She is being heavily and strongly built, with a triple floor from end to end, and will have steel plates 24 by ⅝ in. on keelsons, a steel chord all around 10 by ⅝ in, and steel strapping.

At Curtis & Brainard's shipyard, M. P. Lester, their foreman shipbuilder, is giving their steamer Cherokee four strakes of new floor plank on each side of keelsons, some general repairs and re-calking. The steamer Miami is receiving some new bulwarks aft, some new sail, and new wale strakes forward. The barge Dayton is receiving new wale strakes and general repairs. She received new masts and spars, sails and wire rigging last fall.

Nicholas Kliemann, shipbuilder, is giving the barge C. Spademan a general rebuild comprising new bows, new deck frames and decks, stanchions, rail, bulwarks and covering board, new sister keelsons, hatch coamings and hatches and re-calking. He is also giving the barge Jane Ralston some general repairs and calking.

AU SAUBLE, MICH.

Special Correspondence to The Marine Record.

The barge Montgomery, owned by H. M. Loud & Son, has received new deck beams and deck floor and new rail and has been housed in forward. She will be brought to Port Huron and will be placed in Dunford & Alverson's Dry Dock and receive steel plates on her keelsons, all other necessary repairs and a thorough re-calking.

Capt. Douglas Kendall will be master of the barge Montgomery again, the coming season.

Capt. J. R. Inches will again command the steamer Wyoming. He is superintending the repairs being done on her by Abram Smith & Son, shipbuilders, at Algonac.

H. M. Loud & Son have recently launched a tug which they built, of the following dimensions: 60 feet over all, 14 feet beam, 8 feet hold. She will have a fore-and-aft compound engine built by F. W. Wheeler & Co., Bay City, and will be used for harbor towing and fishing, which H. M. Loud & Co., will go into extensively.

ST. CLAIR, MICH.

Special Correspondence to The Marine Record.

The steamer Pilgrim, Capt. Fred Nemo, has received a new smoke stack, new canvas on upper deck and general repairs. She will, weather permitting, commence running this week between Detroit and Alpena.

W. E. Thomson & Co., and Capt. Fred Nemo went to Gladstone last week to look over the steamer Douglas with the view of purchasing her.

C. McElroy will remove his office to the rooms over the post office and his steamer Unique will run the coming season from the dock in the rear of the post office building.

THE ABERRATION OF MAGNETIC NEEDLES.

(BY C. LOUIS BERGER.)

Why do different magnetic needles not always point in the same direction, though observed at the same place and time? Such was the subject of a paper read at the annual meeting of the Michigan Engineering Society for 1895 at Lansing, Mich., by C. Louis Berger of the firm of Buff & Berger, Boston, Mass.

A close observer of the compasses used in surveying instruments must have noticed that the exterior shape of the magnetic needles, forming part thereof, frequently differs as much as do the styles of the instruments themselves. In some cases the needle consists of a bar of thin steel, oblong in shape, which rests flatwise on its supporting pin, so that its greatest superficial area lies in the horizontal plane as shown in Fig. 1. In others, as represented in Figs. 2, 3 and 4, the shapes are modifications of the above in a greater or less degree, inasmuch as their longer transverse dimensions—whether at the ends or center—also lie in the horizontal direction. Some magnetic needles carry a graduated circle or verniers, as the case may be, as seen in Figs. 5 and 6, whose zero points are supposed to lie in the geometrical axis of the needle; some are placed edgewise, so that the greatest superficial area lies in the vertical plane. There are also dipping needles to measure the vertical intensity of the earth's magnetism; short and stubby needles with aluminum extensions for galvanometers; complex needles, made in sections, used in marine compasses, and cylindrical or tubular forms used in scientific research. (Needles of the last mentioned type are not read by observing the ends, but by means of mirrors attached at the middle similar to those on a magnetometer.) Figs. 9, 10 and 11 show the principal types of the last mentioned needles.*

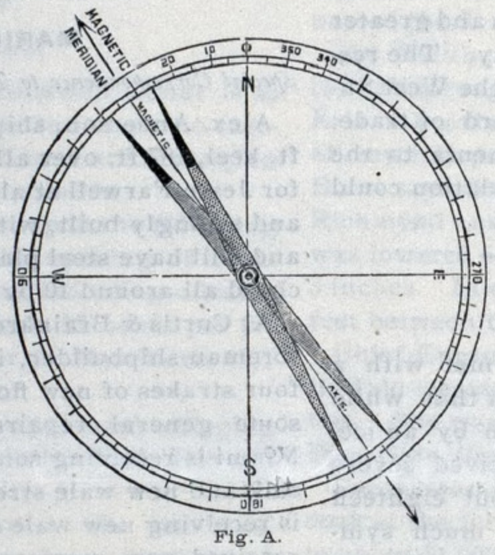

Fig. A.

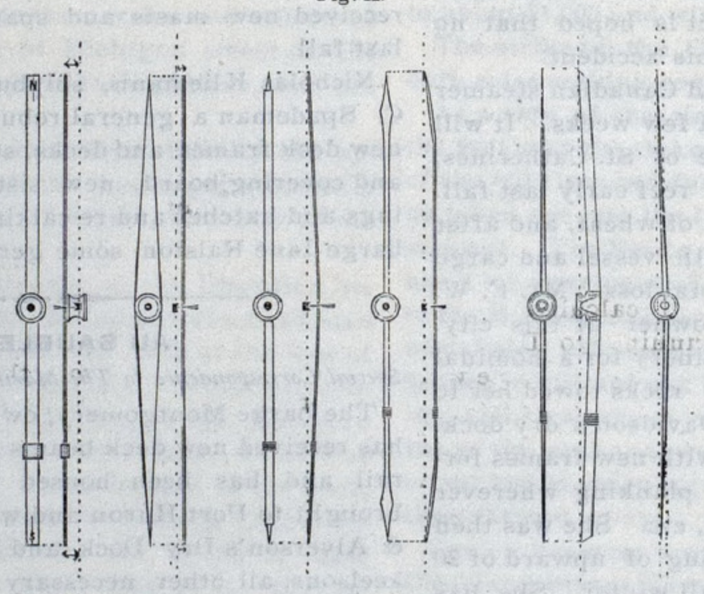

Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 7, Fig. 8.

Types of Magnetic Needles for Surveying Instruments.

A needle made of a very thin steel tube will be capable of receiving and retaining a greater charge of magnetic force, and, also being very light—preventing wear of the cap and pin—it is easily influenced to assume the direction of the magnetic meridian in azimuth.

In Fig. 1 we see exemplified the flat bar, and in Fig. 7 the edgebar needle as used in surveyor's compasses, but as all the intermediate styles of needles are simply modifications of the flat oblong form in order to be light in weight, partaking of the same principle that is involved, we shall consider these two forms almost exclusively.

However, to get a complete understanding of the matter, we must go back to the ingot from which the steel of the needle was produced. If we remove a portion of the outer crust of a steel ingot or other casting and carefully examine the surface laid bare with a magnifying glass, we shall find that what seemed to the naked eye as a solid mass is now a spongy one, with numberless small and large cavities or blow holes. It is only by forging and rolling into bars and sheets, at the mill, that the metal becomes at all homogeneous. Some of the cavities not being welded are elongated in the direction of the rolling, and form veins, flaws or blisters according to size, thus imparting to the bar or sheet a structural grain or fiber, which, while always traceable in poor steel, can only be detected in degree with the ingot has been converted into fine steel. In the absence of information to the contrary it is therefore but natural for the writer to believe that when a needle is being magnetized its resulting magnetic axis will in all likelihood tend to run in the direction of the general trend of this grain without strict regard to the geometrical axis, with which it may then be at an angle. The above divergence of these two axes may, therefore be considered as one cause of the observed fact—that two needles, though of the some size and shape, other things being equal, may not read exactly the same when observed at the same place and time.

Should the needle be so sensitive that when deflected from its pointing by the outside attraction of a piece of iron held about a foot or so away, it will settle to its original position several times in seccession. This sensitiveness depends on the form and sharpness of the pivot, strength of its magnetism and its bearing upon the finely polished jewel or steel cap. (It is generally owing to the dulling of the point and the scratching of the cap that a needle becomes sluggish and refuses to return to the same point.)

There are other reasons, such as the daily variations of a needle, which, according to temperature, latitude and season of the year, may amount to from six to sixteen minutes alone, showing why reliance on the reading of a magnetic needle can be placed only within certain limits and that it should be depended on only for general direction as required in filling in details. For exact work meridian lines run by solar or stellar observations should be depended on exclusively, to which end the modern solar attachments give the fullest satisfaction.

In conclusion, we would say that such tests on a meridian mark, as recommended above, should be repeated often, and that in order to facilitate the work such meridian marks should be located at some convenient place so as to be within easy reach of the surveyor at all times.

*The largest and most delicate magnetic needle with which the writer is acquainted is that of the large magnetometer in the University of Marburg, made of a solid bar of steel two feet long and weighing about twenty-five pounds. It was suspended from the ceiling by a strand of silk fibers, and was provided with mirrors so that any oscillation could easily be read by the use of a scale and theodolite. This instrument was made after the style of Gauss' instrument, and with it many observations were made to determine the diurnal and annual changes in the magnetic meridian at that place.

Types of Needles for Scientific Purposes.

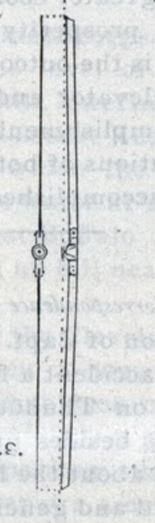

Fig. 9.

Galvanometer Needle wit Aluminum Extensions.

Fig. 10.

Dipping Needle (reversible).

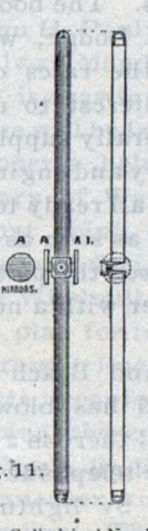

Fig. 11.

Hollow Cylindrical Needle (reversible).

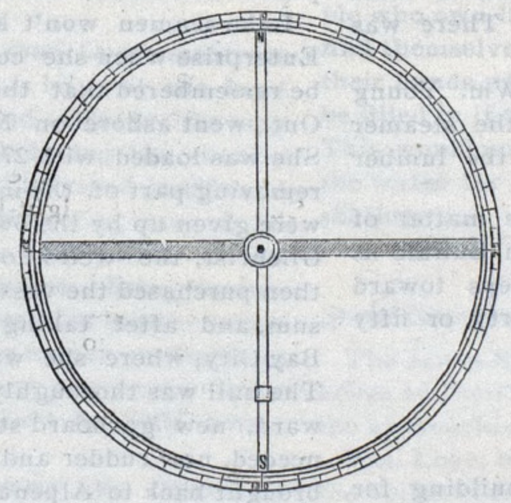

Fig. 5.

Type of Needle for Prismatic Compass.

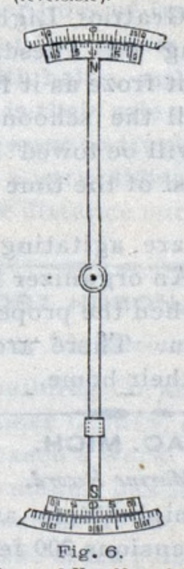

Fig. 6.

Type of Needle with Vernier.

VESSELS TO MAKE REPORTS.

Beginning with the opening of navigation all vessels entering the harbors of Duluth and Superior will be required to report to Maj. Clinton B. Sears, Corps of Engineers, U. S. A., the government engineer at Duluth.

The inauguration of this plan is the outcome of the agitation begun recently in the Duluth Chamber of Commerce, which resulted in the passage of a resolution requesting Maj. Sears to enforce a law giving him power to compel vessels to make reports. The resolution was sent to Maj. Sears and was by him forwarded to Gen. O. M. Poe, at Detroit, with the recommendation that the reports be required. Gen. Poe approved it likewise and sent it to the chief of engineers at Washington, who has just returned it to Maj. Sears with his approval.

The law provides "that owners, agents, masters and clerks of vessels arriving at or departing from localities where work of river or harbor improvement are carried on shall furnish, on application of the person in local charge of the works, a comprehensive statement of vessels, passengers, freight and tonnage."

It is Maj. Sears' intention to make this work as easy as possible for the vessel men and under the regulations which he will adopt there will be no cause for complaint and no additional work to speak of. An order is already in the hands of the printers for a large number of books containing blank reports. These will be furnished to vesselmen upon application by mail or in person to Maj. Sears. They can also be had by applying to the superintendent of the Sault Canal. The master of each vessel upon entering the harbors of Duluth and Superior must send to Maj. Sears a report of the cargo which he delivers at each port and upon clearing, the cargo which he takes away from each. These reports will be in a form, ready after being filled out for mailing without the use of an envelope and will bear the government penalty card so that no postage will be required. The reports of the cargoes are to be made in tons. Each book will contain full rules and information for making out the reports. The clerk of any vessel can easily fill out one of these blanks in ten minutes at the most.

Shipmasters will not be required to take their reports to Maj. Sears' office in person, but can mail them at the nearest postoffice. This will be a great convenience in many cases. For example, if a vessel came in light during the night loaded and went out again the same night it would greatly inconvenience the master to be obliged to report in person, but under the regulation he can mail his report from the Soo when he arrives there.

The employment of a few men will be necessary, a night and day watchman at each entrance will be necessary to take the name of every boat entering the harbors. At each entry a locomotive head light will be erected on a swivel, so that it can be turned on a vessel in the night and her name ascertained. There will also be a recorder of vessels who will be located in Maj. Sears' office, although he will have duties to perform as well.

The authority of the engineer to enforce this reporting is absolute and the penalty is severe. The law provides "that every person or persons offending against the provisions of this act shall for each and every offense, be liable to a fine of $100 or imprisonment not exceeding two months, to be enforced in any district court in the United States within whose territorial jurisdiction such offense may have been committed."

Down in Quebec the board of trade is opposing the project of the great maritime ship canal on account of disastrous results that might arise from turning the waters of the St. Lawrence through Lake Champlain into the Hudson.

TRIPLE SCREW PROPULSION.

A lecture on "Triple-screw Propulsion" was delivered at the Marine Engineers' Institute, Newcastle-on-Tyne, England, on the 5th inst., by Mr. George N. Arnison, Jr. In the course of the lecture, which was illustrated with a number of views, the author stated that multiple-screw propulsion was first adopted in the "tin-clads" which were built for service in the Mississippi during the American war. These vessels had four-screw propellers. Some vessels having the same number of propellers had been built in the United Kingdom for canal and ferry traffic. About 21 years ago in the Russian circular gunboats six screw propellers were fitted. The Czar's yacht "Livadia," now the transport "Opit," was probably the first triple-screw propelled vessel. To France, however, comes the honor of carrying out experiments with three propellers in conjunction with a suitably-designed hull. The trials with the "Crape" lasted from June, 1884, to November, 1885, and the results obtained as regards the best positions for three propellers have no doubt influenced all subsequent designs. The Italian navy was next to adopt triple-screw propulsion, although in the first vessel so fitted, the "Tripoli," the machinery was supplied by a Tyneside firm. In this vessel triple screws proved most successful, and six other vessels of the same type have also been built in Italy. The first large triple-screw warship to be completed was the "Kaiserin Augusta," of the German navy, which, in September, 1892, obtained a mean speed of 21 knots. The greater part of the lecture was, however, taken up with descriptions of the United States cruisers "Columbia" and "Minneapolis," the former of which obtained a mean speed on trial of 22.8 knots, and the latter a speed of 23.07 knots. The French navy will shortly have five sea-going armor clads afloat fitted with triple-screw propellers, although, unfortunately, hitherto the "Dupuy de Lome" (the first to be completed) has not attained success, owing to breakdowns on trials. The lecturer concluded by expressing the opinion that for cruisers and armor clads of high speed triple screws are evidently advantageous, as thereby economical efficiency was obtainable at both high and low speeds. As undoubtedly higher speeds and greater power will be required in the future Atlantic greyhounds, and as already the limits of safety and endurance in shafting and bearings appears to have been reached, triple-screw propulsion will also be a necessity for such vessels.

ERIE CANAL ELEVATOR CO.

The prospectus and agreement of the proposed Erie Canal Elevator Co. of Buffalo, which if to operate two floating elevators at that port is as follows:

Each elevator is to be capable of elevating ten thousand bushels of grain per hour, and to transfer canal grain at a rate not exceeding ¼c a bushel, no charges to be made to lake vessels for the use of steam shovels.

Capital stock, $40,0000, in shares of $50 each. Ten per cent to be paid down, balance when called for by the Board of Directors; dividends to be paid semi-annually, as hereafter designated by the Board of Directors. No one man allowed to hold over eight shares. Shares not to be transferable except to the company.

The elevators when bought or built are not to be sold, leased, or in any way be associated with the present elevator combine at Buffalo, but shall remain the property of the Erie Canal Elevator Co. for at least twenty years.

When $20,000 or enough funds have been subscribed for to buy or build one elevator the directors are authorized and directed to either buy or build, and to put said elevator in operation at the earliest date possible.

When a part of the capital stock has been subscribed for then a meeting of all subscribers shall be held and a new president, vice-president, secretary and treasurer and board of directors shall be elected, who are to hold office for one year, or until their successors are elected.

Therefore, by the aforesaid stipulations, we, the undersigned canal boat owners and others interested in the welfare of the Erie Canal, subscribe to the number of shares set opposite of our respective names.

This company is formed by the Erie canal boatmen. At a meeting of the canal boatmen held in New York last week, the following resolutions were unanimously adopted:

Whereas, The benefit of free canals and lengthened locks, also the establishment of the double-boat system on the Erie Canal, are all neutralized and completely handicapped by that unmerciful railroad grain elevator combine at Buffalo, and,

Whereas, By their past way of manipulating elevator charges, railroad corporations can starve Erie boatmen to death, notwithstanding it is known throughout the civilized world that any commodity can be carried at less cost by canals than it can on railroads; therefore, be it

Resolved, That it is imperative that all grain boat owners and others interested in canal transportation should subscribe for stock in the Erie Canal Elevator Co. in order to give the Erie Canal an equal chance with the railroad competitors in transfer charges on grain at Buffalo.

INVENTION OF THE BAROMETER.

Prof. G. Hellmann gives a very interesting account of the invention of the barometer, which has now been in use 250 years. Torricelli, who died at the early age of 30 years, was too busily engaged in mathematical studies to publish an account of his discovery, but on June 11, 1644, he wrote a description of it to his friend Ricci. This letter and Ricci's objections to the experiment were published in 1663 by C. Dali, a friend of Torricelli's, and as this work is now exceedingly rare, Prof. Hellmann has reprinted the correspondence in the original Italian. Some of the paragraphs, says Nature, are noteworthy, especially those in which Torricelli states that it was not merely a question of producing a vacuum, but of making an instrument which would indicate the changes of the atmosphere. The first continuous barometrical observations appear to have been made in France. In England they were first taken by Robert Boyle, about the year 1659, to whom we owe the invention of the word "barometer."

EFFECT OF EXCESSIVE REFRACTION ON NAVIGATION IN THE RED SEA.

The same cause which renders celestial observations of so little account on the lakes, is experienced in the Red Sea, as according to the last issue of the North Atlantic Pilot Chart issued by the Hydrographic Department, U. S. N. Washington, it is demonstrated that the effect of the excessive refraction found in making observations of the sun in the Red Sea is the subject of a report recently received from Lieut. W. A. Marshall, of the U. S. S. Detroit, and it is suggested that many zig-zag tracks made in these waters are from this cause rather than from cross currents, as has been supposed. Having had previous experience in navigating the Red Sea, the report states, special attention was given to the subject during the passage of the Detroit. From off Shadwan Island light-house the ship was headed directly for The Brothers, which were made as calculated upon, while the same result was had in running to Daedalus Shoal light-house. From the latter point one course was steered for 63 hours for the island Jebel Tier, a distance of 656 miles, and it was sighted directly ahead, but from the latter island to the small strait of Bab el Mandeb, a current of 1⅓ knots an hour setting NNW. ⅜ W., magnetic was encountered.

As determined from stellar observations, errors of from 12 to 18 minutes of longitude resulted from a. m. and p. m. observations of the sun, notwithstanding that the utmost care was practiced in taking the same. With the exception of meridian altitudes for latitude, solar observations were not relied upon during the passage, the ship being navigated entirely by means of early twilight, dawn and night star sights.

During the run from Jubal Strait to Jebel Zukur Island, a number of steamers standing up or down the Red Sea were sighted that were being steered from one to three points away from the course of the Detroit.

PERIODICALS AND BOOKS RECEIVED.

Northern Lumberman, Vol. 1, No. 1, a 16-page journal, comes to our exchange table this week as a welcome guest. The publishers, Hays, Ellsworth Co., Duluth, Minn., believe that there is room for just such a journal as the *Northern Lumberman* to cover the white pine field of the Lake Superior region and the markets to the east and west. The first issue of the *Lumberman* is an interesting number, ably edited and with a fine, clean typographical appearance which argues most favorably for its future success, although, as its publishers modestly acknowledge, the career of the journal must travel for the most part along well-established highways of journalism. With the immense commercial departures in the lumber regions of the northwest and the virgin territory now springing in prominence through pushing this important industry we see no reason why the *Northern Lumberman* should not soon become a "power in the land" and to that end we wish it much success.

Lake aud Canal is the title of a ten-page journal about the same size as the *Scientific American* issued this week by the Lake and Canal Publishing Co., Buffalo, Edward Varian, editor. The new competitor for marine favors, judging the first issue now before us, will prove an able champion of the best interests of lake and canal traffic, though we note with some surprise an agreeable departure from the ordinary columns of a marine paper inasmuch as a chaplain's column has been introduced and the feature indorsed by Bishop Coxe, of Buffalo. Several illustrations are contained in the initial issue and the salutatory is couched in such language as to make friends among the shipping community. THE RECORD wishes the new champion of maritime pursuits much success along the pathway of journalism and hails with pride the addition of the new recruit to our ranks who we are prone to say will always be found on the right side of all questions affecting the lake and canal transportation interests.

The second annual report of the Board of Park Commissioners of Cleveland, for 1894, has been received this week and it merits the highest commendation. Considerable park frontage lies along the lake shore and it is the intention of the commissioners to increase and improve this valuable territory so that residents and visitors to the port may enjoy the lake breeze in summer from the most artistic, convenient and advantageous standpoint. Mr. John F. Parkhurst vice-president and general manager of the Globe Iron Works Co., is one of the park commissioners who is deeply interested in beautifying the lake front.

"Screw Propellers and Marine Propulsion," by I. McKim Chase, M. E., from the press of John Wiley & Sons, New York, is the title of a 223-page illustrated volume just issued. The author aims to place before those engaged in building propeller screws a comprehensive and practical work that elucidates the principles of screw propellers. In the compilation of the book every accessible authority and work of importance has been consulted, besides the results of numerous experiments which came under the author's observation are also treated upon without formulating any rules of his own, but simply giving his extensive experience. An immense amount of labor and talent has been devoted to the demonstration of the various theories of marine propulsion, but in determining the proportions of screw propellers successful designers do not follow any of the theories, they depend chiefly upon experimental information and are guided by the knowledge acquired by actual experience. From the foregoing standpoint the author of "Screw Propellers and Marine Propulsion" has launched out a most valuable work and one that all manufacturers of propeller wheels would do well to have in their libraries.

We have received from the United States Hydrographic Office a copy of No. 108, Part 2 being sailing directions for Lake Michigan, Green Bay and Straits of Mackinac. It is the intention of the department to publish in parts a complete set of sailing directions for the lakes from Duluth to the Atlantic. We can't speak too highly of Part 2, which has been prepared by Lieut. D. H. Mahan, U. S. Navy, in charge of the division of sailing directions; assisted by Ensign James H. Reid, U. S. Navy. The charts and illustrations were prepared by Mr. G. W. Littlehales, in charge of the division of chart construction of the hydrographic office. Credit is also given to the following gentlemen accompanied with the thanks of the office for furnishing valuable information: Martin J. Russell, collector of customs, Chicago; Samuel G. Artingstall, city engineer, Chicago; F. B. Higgie, secretary of the Shipmaster's Association, Chicago; R. Forsyth, second vice-president Illinois Steel Co., South Chicago; J. S. Dunham, president Dunham Towing & Wrecking Co., Chicago; James Pickands, president Minnesota Steamship Co., Cleveland, O.; H. F. Loftus, master steamer "Manhattan" Interocean S. S. Co.. Windsor Park P. O., Ill.; Geo. P. Hummer, manager West Michigan Furniture Co., Holland, Mich.; Chas. Morton, keeper U. S. Life-Saving Station, Holland, Mich.; W. B. O. Sands, president Pentwater Bedstead Co., Pentwater, Mich; Dr. Wm. M. Farr, mayor of Kenosha, Wis.; H. S. Van Ingen, superintendent Pennsylvania Coal Co., Chicago, Ill.; G. B. Parks, special deputy collector of customs, Grand Haven, Mich.; J. E. Hamilton, mayor of Two Rivers, Wis.; G. Beiderman, mayor of Port Washington, Wis.; James McCarthy, harbormaster, Port Washington, Wis.; Frank Geele, mayor of Sheboygan, Wis.; John McSweeney, secretary Shipmasters' Association, Milwaukee; August Ross, collector of customs, Milwaukee; Capt. A. B. Davis, United States revenue cutter "Andrew Johuson."

THE MARINE RECORD

ESTABLISHED 1878.

PUBLISHED EVERY THURSDAY, AT 144 SUPERIOR ST., (LEADER BUILDING), CLEVELAND, O.

IRVING B. SMITH, CAPT. JOHN SWAINSON, } . . PROPRIETORS

BRANCH OFFICE:

CHICAGO, ILL., ... 238 Lake Street.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, . . . $2 00
One copy, one year, to foreign countries, . . $3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

Entered at Cleveland Post Office as Second-class Mail Matter.

CLEVELAND, O., APRIL 4, 1895.

THE Kendall Marine Reporting Co., Port Huron, telegraphs THE RECORD Thursday that the ice off Lexington, Lake Huron, is a solid mass and there is no water in sight, while at Port Huron the river is full of heavy running ice. This report would seem to indicate a rather late opening.

THERE surely is something lacking in the system of entering and clearing at the custom houses at the head of the lakes when the district engineer finds it necessary to receive and file tonnage reports which should be easily obtainable from the custom house official port records. Major Clinton B. Sears, Corps of Engineers, U. S. A. will this season require masters to furnish his office inclusive and regular reports of the cargoes handled, number of passengers carried, etc., at Duluth and Superior.

VESSEL TAXATION.

Much comment has recently been made on the passage of a bill dealing with vessel taxation in Wisconsin and now a new bill has been brought before the Minnesota legislature limiting the annual tax on vessels to three cents per net registered tonnage in lieu of all other taxation state or municipal.

It may be that three cents per ton is an equitable assessment but the fact remains that in a season of low freights, floating property instead of leaving a margin of profit in many instances shows a loss so that even at an assessment of three cents a ton becomes not only burdensome, but positively unjust.

We have now the income tax in force for national purposes and this we opine ought to be the only tax placed on vessels as the net-earnings of any form of business is the, or ought to be, the basis of taxation for all purposes It is a positive certainty that taxation of floating property may be carried too far and with the lately saddled national tax besides state and municipal it looks as if those in power are endeavoring to drive vessel owning out of the field of commerce.

UNDERWRITING ON THE LAKES.

It is quite evident, in fact it has been so for the past three years, that the business of underwriting lake risks is slowly but surely changing from previous or ancient methods, towards a most economical or modern basis.

To show the way marine insurance is trending, we will quote from several sources as follows. A prominent manager of vessel property says:

"Concerning the reports that have been sent out that there will be a heavy reduction in grain rates out of Chicago this season, I wish to state that the rates of last year will prevail. When it comes to fixing the grain rates for the season, the underwriters who met in Detroit a few days ago, are mere figure-heads. The real rate-makers are the Chicago agents of the big railroad line steamers. They are known as line agents, and are as follows: MacMillan, of the Union Steamboat Co.; Henry, of the Lehigh Valley; Prince, of the Ogdensburg Transit Co.; Evans, of the Anchor Line, and Morford, of the Western Transit Co. These agents have an organization of their own and each one has a number of insurance companies that he is going to look out for. It is to their interest to keep up the rates, for the higher the rate, the bigger their rake-off. The understanding between them and the insurance companies is perfect. It is impossible for one of the companies to attempt to secure business on low rates, independent of the agent, for it can always be found cut and the offending company is always boycotted when the good things are given out. Suppose the British companies have come and made a low rate—what effect can their action have on the line agents, who will ignore the foreign companies, no matter what they do? The rates range from 20 to 60 cents, according to the season of the year, and they cannot be lowered without the consent of the line agents. Anyone who says there will be a heavy reduction is talking through his hat. But what about the tramp lines that are not in any way connected with the railroads? Their business in Chicago is looked after by brokers, of whom these are the principal ones: J. J. Reardon & Co., W. M. Egan & Co., Keith & Sullivan, C. W. Elphicke, and C. A. MacDonald & Co., and every one of these firms is in close alliance with the line agents, and they all work together to keep the rates up. It is the broker, in fact, who is strongest in favor of high prices. He not only makes his $25 for chartering the boat, but gets a commission from the insurance companies he represents by throwing business to them. Now, as to the hulls. In spite of the fact that the underwriters are going it independently this year, I do not think there will be such a terrible reduction. The steel risk rate last year was $3, though the foreign agencies reduced it to $2.75 and $2.65. It is just possible the $3 rate may be shaded to $2.50 this year, but that is the low water mark. There is a limit to everything, and that figure is the limit in this case. Beneath it the companies cannot pay expenses, and depend upon it, they are not going to take money out of their own pockets for the purpose of fighting their neighbors."

Again do we find the Chicago sentiment running in this way: "Vessel insurance has developed a lively warfare since the general agents failed to reach an agreement at Detroit. There is not the slightest evidence that any movement now undertaken to bring the companies together will be successful. Already one general agency is reported to have taken steel steamers at 2⅝ per cent. as compared to the tariff rate last year of 3 cents. It is predicted that the rate will go as low as 2¼ per cent. While the owners of the big modern boats will reap considerable advantage out of the war between the underwriters, the owners of smaller craft, which have lower ratings, will find it extremely difficult to get insurance at all unless they pay higher rates than even those of last season. No insurance at all will be obtainable on many craft which have hitherto been insured to their full limit."

The Buffalo *Courier* says that it has learned on good authority that the grain insurance pool, which was formed last Wednesday by the lake underwriters at their annual meeting in Detroit, has broken up. It is generally believed that, unless another meeting is had shortly and a reconciliation takes place, every underwriter will go on his own hook, and that grain insurance will be carried on in a wildcat way.

The Toledo *Blade* states that certain companies have intimated to G. G. Hadley, of that city, their intention to make a further reduction of 1 per cent. on first-class hulls, which would bring the rate down to 2½ per cent. The companies making the offer are outside of the lake underwriters' pool.

While in open conversation underwriters endeavor to put a smooth face upon matters, they are nevertheless thoroughly convinced thus early that the season of 1895 will be one of loss instead of profit in their line. "We will have a left-handed year and companies will lose a great deal of money," was the remark made the other day by a gentleman connected with lake underwriting. Figures were given to illustrate that at a rate of 15 cents per 100 on grain—the basis on which Duluth business is being done—the loss of one or two cargoes would wipe out the premiums of an entire season and compel the payment of every other loss out of the reserve funds of the companies. The experiences of 1883 and 1889 caused the absolute withdrawal of a number of strong companies, both home and foreign, from the lake business, and the same thing is just as likely to occur in consequence of the experience of 1895 now foreshadowed so clearly and strongly. The aim of conservative agents in whom the conviction of a disastrous season has become deeply rooted, will be to keep the losses of their companies within as narrow limits as possible. They have abandoned all hope of making any money.

To show still further the change in the underwriting business of the lakes, it was at last week's meeting in Detroit, decided to extend to wooden A1 vessel the English form of policy under which vessels built of steel have been insured for several seasons past. This form waives the question of uninsured interest, does away with the deduction of one-third new for old in connection with repairs, and covers every description of damage in excess of 3 per cent. of the insurance unless caused by stranding, sinking, burning, or collision—collision to be interpreted to extend to damage resulting from contact with docks, rocks, piers, or rafts. Under it all loss or damage by fire is to be paid in full and in accordance with the customs and usages of fire insurance policies without regard to the valuation of the vessel. The policy further covers loss of or damage to hull or machinery through the negligence of master, mariners, engineers or pilots, or through explosions, bursting of boilers, breakage of shafts, or through any latent defect in the machinery or hull, provided such damage has not resulted from want of diligence by the owners of the property, where the loss is in excess of 3 per cent. of the insurance. The policy runs for a year, with the privilege of navigation from the first of April until the 10th of December. Thus in many cases even after a vessel has been laid up she is insured against damage by fire, wind, or flood, and separate fire insurance is rendered unnecessary.

The change from the old method of insuring is of such a sweeping character that it cannot fail to impress owners of wooden vessels favorably and to such an extent that those who have hitherto carried no insurance will now no doubt make application for policies.

THE FREIGHT SITUATION.

Contracting in ore began with a vengeance the latter part of last week and by this time it is probable that 25 per cent. of all the ore that will come down this season is provided with vessels to carry it. The sales have been moderately large, also, several firms having sold standard ores in blocks of 100,000 tons and upwards at the rate of $2.90 on home ore, an advance of 15c. over last season. This brings the prices of Aurora and some other ores up to $3.00 per ton.

The chartering contracts have been made at 75c. from Duluth up to October 1, and 80c. from Ashland to November 15. Some chartering from Marquette and, it is thought, some contracts, have been closed at 75c. The shippers offered 70c. at first, but owners of tonnage declined to listen to the offers, and 75c. was finally agreed upon. While to vessels going back light this rate is better than at Duluth, owing to the saving of 36 to 48 hours time and fuel, but there is practically no call to go to Marquette, and vessels are shut out of that trade altogether unless they can find loads for Portage.

The amount of ore to come down this season is now estimated at about 10,000,000 tons. The ore men are in many cases disinclined to admit so much, but when pushed to the wall it is admitted that not for so many years do they expect to enjoy transportation rates as low as those of last season and the present, and they also feel that buying by the furnaces will be heavy the next fall for the same general reason. The season looks much brighter for vessel property than it did one week ago. Escanaba shipments will also be larger this year than last, and the fact that a well-known ore firm made a contract with outside parties to carry ore from that port at 55c., while its own boats were unprovided for, shows that shippers themselves expect an early advance in rates.

It was reported in Chicago the other day, but rather vaguely, that 33⅓ cents per gross ton free had been accepted for the delivery of iron ore at Irondale, and on the Calumet River, from Escanaba during the season.

* * *

Among the largest ore contracts made this week were by M. A. Hanna & Co., about 300,000 tons Mesaba ore, to be shipped from Duluth, taken by J. C. Gilchrist, the American Transportation Co. and others, at 75 cents to Oct. 1; and 100,000 tons Pewabic ore, from Escanaba, at 55c., taken by J. C. Gilchrist; Oglebay, Norton & Co., 500,000 tons, standard ores, Ashland to Lake Erie ports 80c., contracts running to November 15, this being divided among the Whitney, Eddy-Shaw, Whaleback and Wilson fleets, and others. About 250,000 tons of iron ore are to be shipped from Ashland on a 75c. contract running to October 1, taken by boats in which the iron ore people are interested, and in others which they have loaded regularly for several years last past. The names of the boats securing the Marquette contracts have not yet been given out for publication.

* * *

Coal matters are not so well advanced. Coal sales for lake shipment have in very few cases been made, and while parties acting independently of sales have made some inquiries for tonnage, little business has been transacted, save the chartering of boats for a few single trips to Milwaukee at 45c., which, it is generally thought, will be improved upon after the Lake Superior trade opens up, because of the comparatively small inducements in the way of down freights from Lake Michigan and Green Bay, which can then be offered. The vessel men are inclined to be "coally," as they term it, with the coal people, and say that rates will probably rule higher, by common consent, than last year.

It was noted in several lake papers during the latter part of last week that a Pittsburg firm had been awarded the Chicago & Northwestern's Green Bay coal contract, and that they were looking for vessels in the market to carry it from Transportation Bay at 40c. This seems to have been a myth from start to finish. The contract in question will not be awarded until the 15th inst., and, as a matter of fact, few bids have yet been filed. They will probably not be put in, either, until the last minute, as the competition on this contract is always warm, and

those who contemplate filing proposals are waiting to learn if they cannot hear something which will give them an advantage.

Even if coal rates do not rule much better this year than last, the vessels will make more, or lose less money on it, as at least half a dozen coal-loading machines are to be constructed along Lake Erie, in addition to those already in service. The Cuddy-Mullen Co. will put up a 3,000-ton per day machine for cargo shipping purposes, at the new slip which the Pennsylvania Co. is constructing in the outer harbor just east of the river, and will put up a fast bucket machine at their fueling dock in the main river, which will greatly accelerate their fueling work and allow of some shipping. Walsh, Upstell & Co. are about to construct a car-dumping machine on the Nypano coal dock near Columbus street. The Huron Dock Co. will provide themselves with machines of another type out of alleged equal rapidity. Others will be placed at Toledo, Fairport, Ashtabula, and probably another at the Conotton dock, in Cleveland. This will greatly facilitate loading, and will tend to make coal carrying more popular than it has been heretofore.

Shipping of coal to Lake Ontario will be further developed this season to the extent of a 50,000 ton contract made by the Shipmans, who sold the Grand Trunk coal this season, with D. C. Whitney, of Detroit, to be carried in the steamer D. C. Whitney from Huron, O., to Brockville, Ont., (at the head of the St. Lawrence River) on terms which have not yet been made public. The Grand Trunk coal for that delivery has heretofore gone in cars by the Suspension Bridge Route, and this contract will be so much added to the lake commerce.

* * *

The grain situation at Chicago presents no encouraging features for the vessel men, the rates last quoted on wheat and corn to Buffalo being 1⅛c., and to Kingston 2½c. The all-rail rate from Chicago to New York is now practically only 10c. per 100 pounds, or 6c. per bushel, and as the rule is to allow at least two-thirds of this for the portion of the route between Buffalo and New York, little is left for the lake route to compete with. Stocks of grain in public and private elevators and afloat at Chicogo are: Wheat, 30,183,000 bushels; corn, 8,468,000 bushels; oats, 2,806,000 bushels.

Advices from Duluth are not very clear as to the amount to come down, but the rates are stationary.

* * *

Lumber freights are much stiffer than a week ago, owing to the large quantities to be brought down. Reduced handling charges are, as a rule, being obtained at both ends of the route, and from the present outlook it seems that the boats engaged in this trade will make some money. The situation in Cleveland is rather peculiar. A committee of the Lake Carriers' Association asked for bids for unloading, and accepted the rates offered by the non-union men, drawing up a schedule on that basis, and securing a bond for the proper performance of the work at rates ruling about 2 cents per thousand feet lower than was paid last year. Some fears were entertained that violence would ensue between the union and non-union men when the season opened, but a number of the owners of Lake Huron lumber carriers who took exception to some provisions in the Lake Carriers' schedule, made an agreement with the union men at prices ruling about 1 cent per thousand lower than those obtained by the Lake Carriers. Thus two gangs of lumber shovers will operate in Cleveland, and from present appearances there will be plenty of work for both. Reduced rates from the union handlers have been obtained at other Lake Erie ports, and there are no other such complications as that just noted.

* * *

The steamer New York will go into the lumber trade, her owner having 15,000,000 feet of lumber to carry from Ashland to Ohio ports at $2 per thousand on rail. She will tow two consorts, but they are not named yet.

Capt. Wm. Duluc has about 21,000,000 feet of lumber to deliver at Chicago. Part of this will go from Duncan City at $1.25, part from the Sault St. Marie at $1.50, part from Ontonagon at $1.75, all free on rail, and about 6,000,000 from Duluth at $1.75 flat.

The steamer Toledo of John Stevenson's fleet, with her consort, has a contract for the season for lumber from Manistique to Tonawanda at $1.50, free on rail.

TRANSFERS OF VESSEL PROPERTY.

John Saveland, F. C. Maxon and M. O. Parker have sold the schooner Walhalla to John Braum for $800. Ex-banker John B. Koetiing owned a half interest in this vessel but had it placed in the name of Mr. Saveland, who informed Received Barth of the fact. The following vessel sales have been recorded at the Milwaukee customs office: Schooner Waleska—Thomas Larsen and Frederick Shroeder to Christine M. Hendricksen of Sheboygan, one half, $500. Schooner Graham Brothers—James Pritchard to George E. Fellows of Racine, one fourth, $250. Schooner L. W. Perry—Jacob E. Jacobson of Miiwaukee to Bert Schwang of Okauchee, Wis., one fourth, $240.

The following vessel transfers are reported from Detroit: Loomis F. Hunt has sold his half interest in the steamer Richard Martini to Clarence L. and Anna E. Parker, of Detroit for $3,500; John Miner has sold a quarter interest in the schooner Ganges to Joseph Parsons for $1,500, and H. S. Barker has sold his quarter to the same party for $1,600. One-fortieth of the schooner Thomas Gawn has been sold for $350, making the total valuation $14,000. One-sixteenth of the steamer St. Lawrence goes for $4,357, or at the rate of $69,700 for the whole. One third of the schooner Harvey Bissell has been sold for $1,000. G. Ash Tomlinson buys one-twelfth of the steamer Thomas Cranage for $12,000, or $144,000 for the whole. The schooners Active, Alert and advance were sold by the Stephenson Transportation Co. to P. C. Smith for $15,000, and the schooners Noquebay and Manantee by the same company to Madden Bros. for $12,000. Three-fourths of the steamer Sailor Boy goes for $7,500.

APPOINTMENT OF OFFICERS FOR 1895.

H. J. Johnson, Cleveland.

Str. H. J. Johnson	Charles Miller	.....
Schr. Helvetia	—— Savage	

Milwaukee Steamship Co., Milwaukee.

Str. F. L. Vance	E. B. Marquette	W. J. Gervin
" R. P. Flower	F. Van Patten	Daniel Darcy

Palmer & Gordon, Cleveland.

Str. George Presley	Chas. Wallace	C. J. Church
" Wetmore	Frank Rice	William Bridges
Schr. Brunette	F. A. Pitcher	

Spaulding Lumber Co., Chicago.

Str. H.L.Worthington	James Travis	H. F. Otto
Schr. Wm. Jones	Oscar Clow	T. J. Bronson
" John Bates	J. B. Wilbur	D. Williams

James Corrigan, Cleveland.

Str. Australasia	Wm. Patterson	.....
" Bulgaria	A. H. Gain	.....
" Caledonia	J. W. Brion	.....
" Italia	C. H.Cummings	.....
Sohr. Northwest	Wm. Dandy	
" Tasmania	Alex. Porter	

American Steel Barge Co., Superior.

Str. Colgate Hoyt	W. S. Hoag	Gilbert Newton
" E. B. Bartlett	M. A. Boyce	Walter Aarsant
" A. D. Thompson	W. C. Butts	Ernest Sampson
" Thomas Wilson	A.P. Chambers	Robert Walker
" Samuel Mather	John Smith	Irwin Marshall
" J. B. Colgate	W. H. Kilby	J. H. Pierce
" J. B. Trevor	John McArthur	Geo. Blauvelt
Barges—101	John Sprowell	
" 102	Geo. Gallant	
" 103	F. E. Johnson	
" 104	Louis Leonard	
" 105	A. R. Robinson	
" 107	Carl Secord	
" 109	John Gillis	
" 111	G. W. Smith	
" 115	A. G. McLeod	
" 116	Arch McArthur	
" 117	Nell Campbell	
" 118	James Burr	
" 126	John Parke	
" 127	T. J. Robinson	
" 129	E. Emanuelson	
" 130	W. H. Dick	
" 131	James Leahy	
" 132	Charles Grant	
" 133	M. C. Cameron	
" 134	Wilbur Holdrige	

M. A. Bradley, Cleveland.

Str. Alva	J. A. Holmes	H. C. Talbot
" George Stone	M. Mulholland	Edwin Black
" Hesper	Henry Peterson	S. F. Mahaney
" Pasadena	L. Stough	A. J. Helbing
" Gladstone	J. H. Wysoon	J. N. Kirby
" M. B. Grover	W. E. Morris	H. S. Downer
" City of Cleveland	C. H. Franckle	Mr. Berriman
" Henry Chisholm	Paul Howell	P. H. Doyle
" Rufus P. Ranney	John Donahue	Geo. F. Hunt
" E. B. Hale	Henry Brock	J. H. Gilbo
" J. S. Fay	P. H. Smith	Thos. Shannon
" Fred Kelley	.....	J. B. Hayward
Str. Superior	.....	.....
" Sarah E. Sheldon	H. F. Holmes	.....
Schr. Adriatic	E. Saveland	
" John Martin	Sam Gould	
" Ahira Cobb	Nelson Gifford	
" P. D. Rhodes	John Bridges	
" Thomas Quayle	.....	
" Negaunee	L. C. Cole	
" Sandusky	E. P. Spear	
" Samuel P. Ely	C. R. Baker	
" S. H. Kimball	.....	
" Southwest	R. C. Smith	

Minneapolis, St. Paul & Buffalo Steamship Co., Buffalo.

Str. Washburn	P. MacFarlane	B. St. Bernard
" Pillsbury	James Jackson	J. Davidson
" Nebraska	E. C. Moody	Thos. Churchill
" Dyer	Wm. Jamieson	.....

Montreal Transportation Co., Kingston.

Str. Active	John Gaskin	.....
" Bronson	Jos. Murray	Alex. Barton
" Glide	.....	.....
" Glengarry	J.W.Mawdesley	Chas. McSorley
" Jessie Hall	Chas. Martin	Robt. Hepburn
" Jas. A. Walker	John Boyd	Robt. Marshall
" D. G. Thomson	James Murray	Geo. Henderson
" Bannockburn	Arch McMaugh	H. Thurston
Schr. Minnedosa	John Irwin	
" Kildonan	F. Lafrance	
" Selkirk	James Fleming	
" Winnepeg	M. Patterson	
" Dunmore	John Phillips	

This list of appointments does not include river barges.

C. R. Jones & Co., Cleveland.

Str. building at Detroit	Geo. L. Cottrell	John Golden
" Preston	Wm. J. Harlow	W. Westbrook
" Desmond	C. H. Woodford	E. Parsons
" Sunshine	.....	.....

Niagara Navigation Co., Toronto.

Str. Chippewa	John McGiffin	Robt. McCaul
" Cibola	W. H. Solmes	Wm. Walsh
" Chicora	Jas. Harbottle	Henry Parker
" Ongiara	— McIntyre	W. Sutherland

Richelieu & Ontario Navigation Co.

Str. Passport	T. J. Craig	.....
" Corsican	H. Eshford	.....
" Spartan	H. Grange	.....
" Algerian	A. Dunlop	.....
" Hamilton	— Baker	.....

The Ogdensburg Coal & Towing Co.

Tug Seymour	Pat. Flemming	H. Goodheart
" Myra	James Martin	Thos. Simmons
Barge Menominee	Timothy Hunt	
" Henry Witbeck	Justin Mallette	
" Isaac Stephens'n	Patrick Hurley	
" Fred Carney	Adelor Demers	
" Hoboken	Ed. Maloney	
" H. B.	M. Rodrigue	
" James Buckley	Jos. Lalonde	
" England	Fred Depontigny	
" Ireland	Damase Latour	
" Scotland	Theo. Lepine	
" Aid	D. Sauve	

No appointments have been made for the barges Argo, Kent and Mary.

Canadian Navigation Co.

Prop. Persia	— Scott	A. Ramsey
" Acadia	.....	J. Brown
" Myles	J. Mackie	.....
" St. Magnus	John Gifford	J. Foley
" Arabia	Patenaude	R. Black
" Rosedale	— Ewart	....
" Algonquin	J. McMaugh	— Ellis

Matthews Line, Toronto, Ont.

Prop. Niagara	James Morgan	Wm. Calcott
" Clinton	C. Coons	J. S. Adams
Barge Lisgar	H. Brooks	
" Grimby	G. W. Maitland	
Sch. Emerald	Jno. Phlps	
" Clara Youall	W. J Colevill	

The new tug Zenith, built at Benton Harbor, Mich., by E. W. Heath, is a powerful, well constructed and equipped craft. The Zenith has been given a windlass to work by steam or hand, also one of the well-known "Providence" capstans from the American Ship Windlass Co., of Providence, R. I., who make a specialty of steam and hand windlasses, and steam gypsies for tug boats. In speaking of this portion of her equipment, the owner of the Zenith, Mr. W. H. Singer, said: "The windlass and capstan forwarded by the Providence, R. I., firm are first-class in every respect and will be a fine complement to the new tug when in position. With this portion of the equipment I am well pleased, and shall take occasion to speak a good word for the manufacturers of my windlass and capstan whenever opportunity offers. Furthermore, I hope to duplicate my last order in the near future." E. W. Heath, the builder of the Zenith, says that the capstan and windlass are as fine and well finished mechanism as he ever saw and are a credit to the makers.

QUARTERLY SHIP-BUILDING TABLE.

The following table presents a reasonably complete list of tonnage under process of construction at the various yards of the United States and part of Canada. The list ranges from a large launch up to a three million dollar battleship, and embraces all branches of building. In addition to the entirely new work given below, Davis & Sons, of Kingston, report that they have rebuilt the steel steamer Manuel, which will now be called the America. She is 160 feet in length and almost entirely new. The steamer Lorelei is being lengthened from 60 to 75 feet at the same yard, and F. A. Blackburn, of Benton Harbor, while he is at work on nothing new, has been lengthening and putting new cabins on the steamer R. C. Reid. In addition to the work represented in the table, Fillmore A. Baker, of Patchogue, L. I., has had a $4,000 job rebuilding a steamer, repairs on which will be completed on April 15th.

The following firms report that no shipbuilding is in progress at present at their several yards: Spencer's Island Co., Spencer's Island, N. S.; A. & W. Muir, Port Dalhousie, Ont.; Isaac Combs, Camden, Me.; E. S. Crosby, Bath, Me.; N. H. Timbs, Fairport, Va.; John Myers' Son, Washington, D. C.; L. Shickluna, Port Colborne, Ont.; Polson Iron Works Co., Toronto; McDonald & Brown, Belfast, Me.; John P. Smith, Nyack, N. Y.; Wm. McKie, East Boston; Maryland Steel Co., Sparrows Point, Md.; Arthur Sewall & Co., Bath, Me.; Capt. H. E. Frogg, Bucksport, Me.; McEntee & Rodie, Rondout, N. Y.; H. M. Bean, Camden, Me.

BUILDER.	NAME OR BUILDER'S NO.	RIG.	TONS.	FOR WHOM.	ESTIMAT. COST.	WHEN COMPLETED
Daniel Munro, Gibraltar	Capt. Dan'l Munro	Schooner	800	D. Munro	$ 5,000	May
New England Co, Bath, Me.	No. 259	Steamer	2,000	International S. S. Co.	195,000	
	No. 260	Steamer	200	Maine Coast Nav. Co.	47,000	
Jackson & Sharp Co., Wilmington, Del.	No. 209	Barge	550	Hughes Bros. & Bangs	7,500	
	No. 210	Barge	550	" " "	7,500	
	No. 211	Tug	210	Long Island Rd. Co.	26,500	
Wm. Cramp & Sons Ship & Engine Co. Philadelphia, Pa	India a	Battleship	10,298	United States Navy	3,065,333	
	Massachusetts	Battleship	10,298	" " "	3,063,335	
	Brooklyn	Armored cruiser	9,150	" " "	2,986,000	
	Iowa	Battleship	11,300	" " "	3,010,000	
	St. Louis	Twin screw	10,700	International Nav. Co.		June
	St. Paul	Twin screw	10,700	" " "		October
	No. 283	Schooner	3,100	Wm. P. Clyde & Co.		October
	No. 284	Steam yacht	335	David Dows, Jr.		July
The Atlantic Works, E. Boston	No. 102	Schooner	97	H. E. Converse	30,000	May
Crescent Shipyard, Elizabeth, N. J.	Maple	Lt-house tender		U. S. Treasury		
	No. 9	Steam lighter		New Haven Rd.		
	No. 8	Tug		" " "		
	Villa de Palizada	Tug		J. G. Bolande		
	Palmyra	Tug		Pennsylvania R. R.		
	Bancroft	Cruiser		United States Navy		
	Cincinnati	Ferry boat		Pennsylvania R. R.		
	Emerald	Schooner yacht		J. R. Maxwell		
	No. 10	Oil barge	325	Standard Oil Co.	20,000	May 1
	No. 11	Oil barge	325	" " "	20,000	May 1
	No. 12	Ste m yacht	225	A P. Smith	75,000	July 1
Craig Shipbuilding Co., Toledo, O.	Shenango No. 1	Car ferry	1,500	U. S. & Ont. St. Nav. Co	175,000	Aug 1
	Shenango No. 2	Car ferry	1,500	" " "	175,000	Aug 1
Bell's Steam Engine Works, Buffalo	No. 39	Steel yacht		For sale	4,000	
	No. 43	Steel tug		Lehigh Valley	10 000	
E. W. Heath, Benton Harbor	Zenith	Steel tug	95	W. H. Singer	20,000	April 15
	Laura S. New	Steam yacht	20	M. J. Steffins	21,000	June 10
	No. 22	Propeller	180	G. T. Arnold	10,000	June 1
	No. 20	Steam yacht	4	Builder's account	4,000	July 1
Arthur D. Story, Essex, Mass		Schooner	100	B. Low Co.	16,000	
		Steam lighter	400	Builder's account	30,000	
		Pass. steamer	100	Winthrop, Boston & Winthrop St. Bt. Co.	25,000	
		Schooner	40	Edgar Randall et al	5,000	
		Schooner	75	D. B. Smith & Co.	8,500	
		Schooner	70	Builder's account	7,200	
Ba h Iron Works, Bath, Me.	Katahdin	U. S. S.	2,190	United States Navy	1,800,000	May
	No. 10	Schooner, steel	300	R. H. White	100,000	April
	No. 11	Schooner, wood	285	Maine Coast Nav. Co.	45,000	July
Detroit Dry Dock Co., Detroit	No. 119	Steamer, wood		C. R. Jones, Agent	75,000	May 1
	Arrow	Pass. steamer		S. & I. T Co	100,000	May 1
Pusey & Jones Co., Wilmington,		Schooner yacht		H. B. Moore	11,000	April 1
W. D. Crammond, Hawesville, Ky		Pass. steamer	700	O. & K. Packet Co.	1,400	
J. H. Dialogue & Son, Camde , N. J.	D. S. Lamont	Tug	150	War Department	36,000	March
	No. 327	Yacht	40	J. H. Dialogue & Son	10,000	June
Rob't Palmer & Son Co., Nowalk, Conn.		Six car floats	900 each	N. Y. & N. H. R.R.Co	132,000	July
		Five coal barges	834 each	Staples Coal Co	115,000	October
		Schooner	20	John Luce	2,500	June
Chicago Shipbuilding Co., Chicago	Victory	Steamer	3,600	Interlake Co.	200,000	July 1
	Zenith City	Steamer	3,600	Zenith Trans. Co.	200,000	July 15
	No. 16	Tow barge	3,000	John Corrigan	120,000	Aug. 1
	Malta	Schooner	2,500	Minnesota S. S. Co.	100,000	April 1
	Marcia	Schooner	2,500	" "	100,000	April 1
Elmer A. Ely, Middleton, Conn.		Catboat		J. E. Benly	250	May 1
	Pelican	Catboat		Howland Bell	450	April 15
		Steamer aux.		O. C. O'Brien	4,000	April 20
		Aux. catboat		E. Miller	750	May 1
Bertram Engine Works, Toronto	Pembroke	Sidewheel tug		Upper Ottawa Imp. Co.	20,000	
	Bronson	Sidewheel tug		" " "	15,000	
	No. 12	Steamer		Royal Can. Yacht Club.	10,000	
A. M. Gamage & Co., S. Bristol, Me.		Schooner	45		3,000	April 30
		Steamer	15		1,500	May 31
New England Co., Portland, Me.	Bay State	Steamer	2,203	Portland Steam Pack. Co	250,000	April 1
Calvin Shipbuilding Co., Kingston, Ont.	Jack	Steam barge	700	Builder's account	40,000	May 1
Hall Bros., Port Blakeley, Wash.	No. 79	Schooner	500	H. Madison et al	38,000	Aug. 15
	No. 80	Schooner	500	W. G. Hall et al	38,000	July 15
James Davidson, Bay City	No. 65	Schooner	3,000	Builder's account	80,000	April 1
	No. 66	Steamer	3,500	" "	150,000	May 15
	No. 67	Barge	700	" "	10,000	April 1
	No. 68	Barge	700	" "	10,000	April 1
	No. 69	Steamer	3,500	" "	150,000	June 1
	No. 70	Car ferry		W. & M. R. R.		June 15
	No. 71	Car ferry		" "		June 15
C. V. Minott, Phillipsburg, Me.	C. V. Minott	Schooner	1,200	Builder's account	50,000	
Neafie & Levy Shipbuilding Co., Phil'a	No. 882	Schooner	1,000	B. & G. St. Bt. Co.		June 1
Fillmore A. Baker, Patchogue, L. I.		Sloop yacht	12	J. B. Fosdick	1,400	May 1
		Sloop yacht	10	Builder's account	1,200	June 10
John E. Monk, Sandusky	J. E. Monk	Propeller	60	" "	5,000	
Farr & James, Essex, Mass.		Schooner	178	Pigeon Hill Gravel Co.	11,000	
		Schooner	103	H. Parkhurst	9,000	
George Lawley & Son Co., S. Boston	No. 281	Schooner	150	G. W. C. Drexel	40,000	July 15
	No. 277	Yawl	35	M. R. Muckle	8,000	May 15
	No. 279	Schooner	45	A. A. Pope	7,500	June 1
Portland Shipbdg. Co., Portland, Me.	Sebascodgeon		250	Horpswell S. B. Co.	25,000	June 5
	Louisa		50	Presampscot Riv. S.B.Co	5,000	May 5
Davis & Sons, Kingston, Ont.		Barge	160			May 1
Abram Smith & Son, Algonac		Propeller		Builder's account	68,000	May 15
Jenks Shipbuilding Co., Port Huron	Linden	Propeller		" "	65,000	May 1
A. Anderson, Marine City		Propeller		J. H. Farwell	45,000	
F. W. Wheeler & Co., Bay City	J. J. McWilliams	Propeller		John Mitchell et al	200,000	May 20
		Barge		H. McCormick et al		
		Propeller		Eddy & Shaw	200,000	June 1
	Wahpiti	Steam yacht		H. W. Sibley		June 15
		Propeller, wood		Peshtigo Lumber Co.	50,000	June 1
Globe Iron Works Co., Cleveland	Northland	Twin propeller	4,300	Northern Steamship Co.	100,000	May 15
		Schooner		American Trans. Co.	100,000	July 1
		5 canal barges		Steel Canal Barge Co		July 1
		1 canal steamer		" " " "		July 1
Cleveland Ship Building Co., Cleveland	Chili	Propeller		M. M. Drake et al	160,000	June 1
				R. R. Rhodes et al	160,000	Aug 1

THE MAGUIRE LAW.

A circular issued by the Atlantic Coast Seaman's Union is regarded as being, in effect, an invitation to the crews of costwise vessels to desert whenever they arrive at ports at which there is temporarily a scarcety of seamen and where, consequently, higher wages can be secured on some vessels in urgent need of men. The circular quotes sections of the Maguire bill, which was approved February 18, and which amends the Act of August 19, 1890, relative to the signing of seamen in the coastwise trade. The circular in question gives the following as the "merits" of the new law:

It guarantees to seamen engaged in the coastwise trade of the United States, or the trade between the United States and the Dominion of Canada, or Newfoundland, or the West Indies, or Mexico, the freedom of civil contract enjoyed by all other workmen on shore. That is, a seaman who ships on board of a vessel engaged in the above-mentioned trade, no matter whether his shipment takes place before a U. S. Shipping Commissioner or not, may at his own option, and if he be not satisfied with the vessel or her officers, leave her in any port without fear of imprisonment or punishment of whatsoever kind. He simply forfeits the amount of wages which he may have earned up to the time of leaving, as under similar circumstances any other workingman would do."

The new law further provides: "That the clothing of any seaman shall be exempt from attachment, and that any person who shall detain such clothing when demanded by the owner, shall be liable to a penalty of not exceeding one-hundred dollars."

"By its provisions also, allotment in the coastwise trade, and the trade between the United States and the Dominion of Canada, or Newfoundland, or the West Indies, or Mexico is absolutely prohibited. Section 4532 of the Navigation Laws provides that no allotment shall be given to any seaman except in the presence of a Shipping Commissioner. Therefore, as the Act of February 18, 1895, debars those officials from giving allotment, any outside shipping agent or other person who undertakes to issue allotment notes to seaman engaged in the aforementioned trade is liable to prosecution for usurping the functions of a Government official.

"Under the provisions of this Act seamen must, at the conclusion of a voyage, be paid the full amount of wages which they may have earned from the time of joining the vessel until the time of leaving her, inclusive, without any deductions whatsoever; no matter how many outstanding bills for 'teaming' or 'shipping' or anything else may be presented to them for payment." The effect of Maguire Bill on lake tonnage is of course nil as different conditions exist on the lakes as compared with that of the coasting trade.

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The Bauer External flue scraper, manufactured by E. Rayfield, 373 Dearborn street, Chicago, is now taking the lead in tools used for the purpose of removing scale and sediment from boiler tubes. These scrapers are made of tool steel, hardened, concaved and ground, producing two sharp edges to work both ways. The set consists of five pieces and are guaranteed to last ten years

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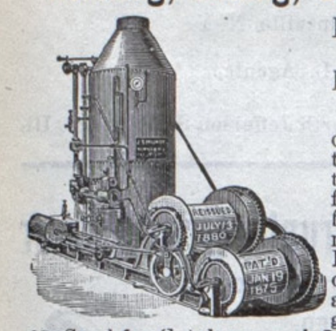

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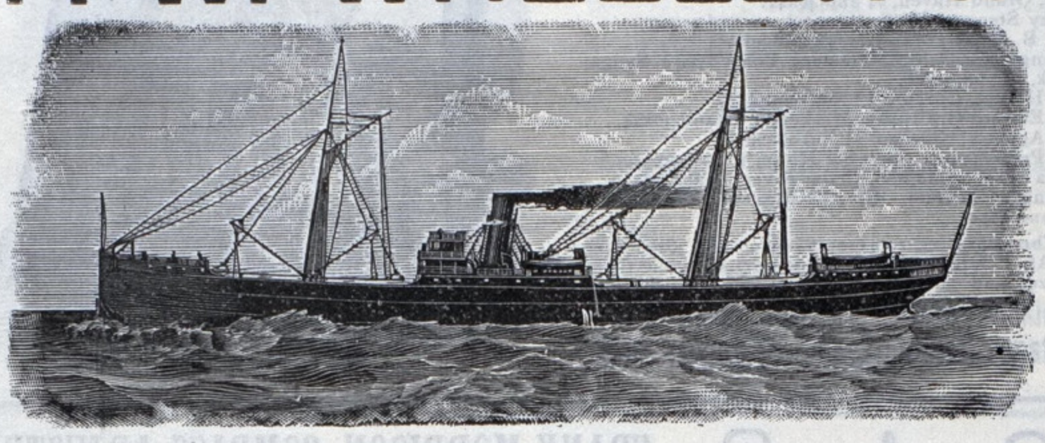

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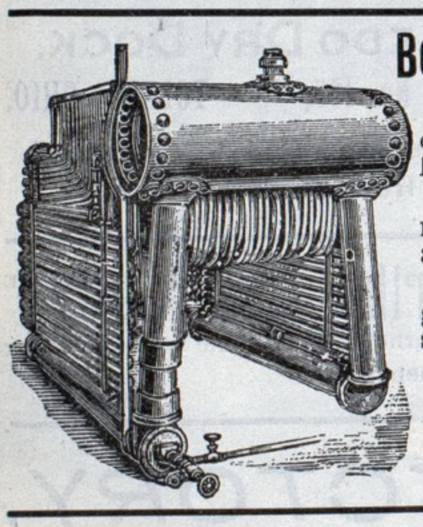

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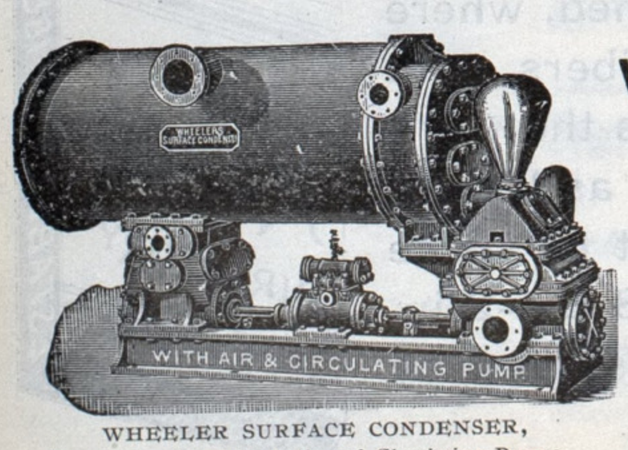

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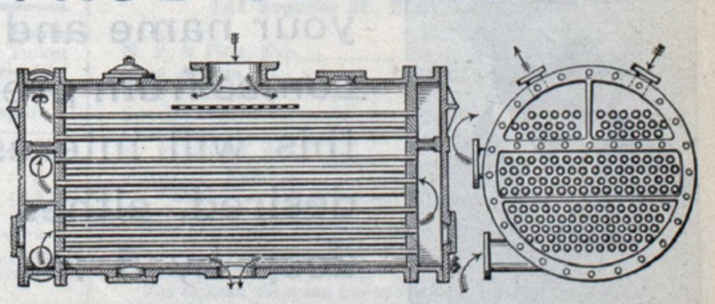

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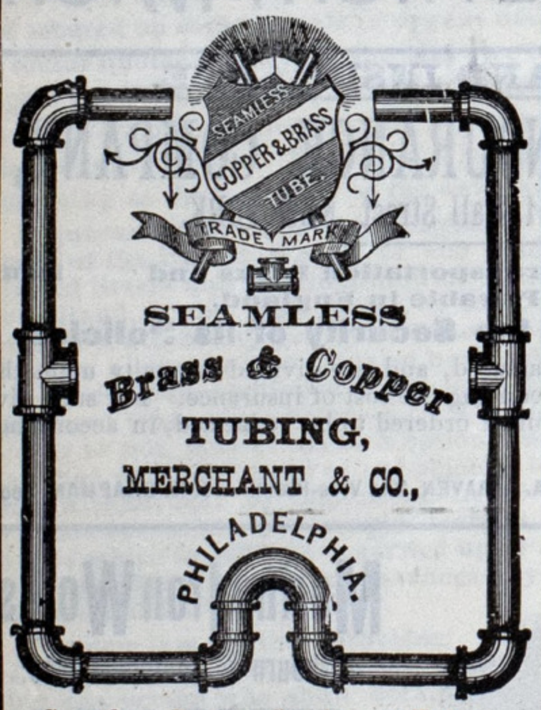

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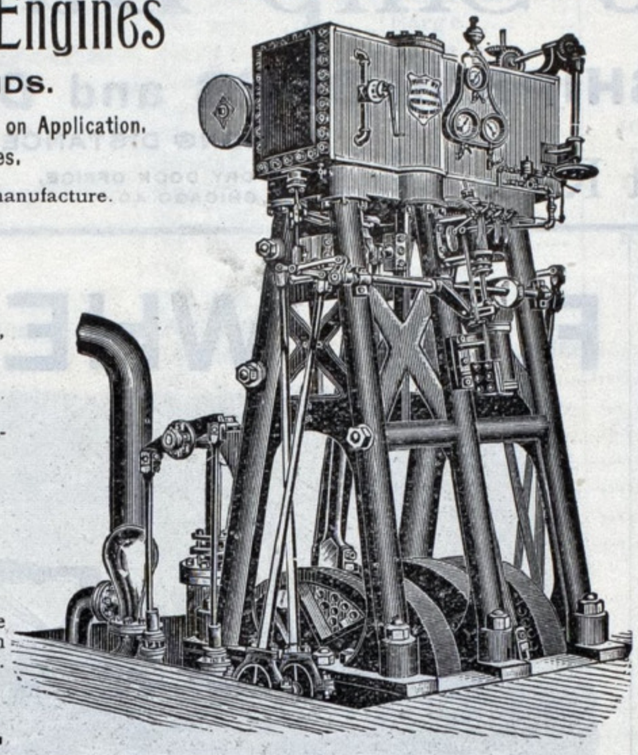

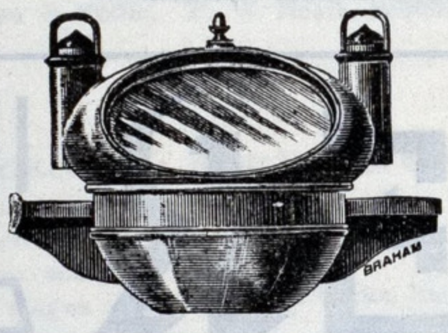

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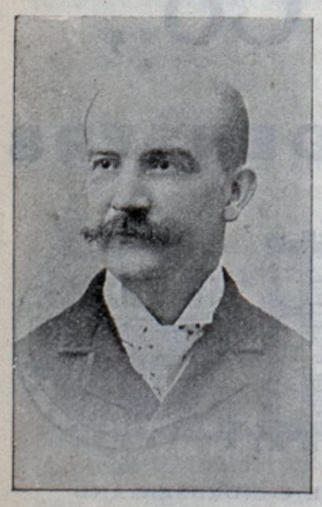

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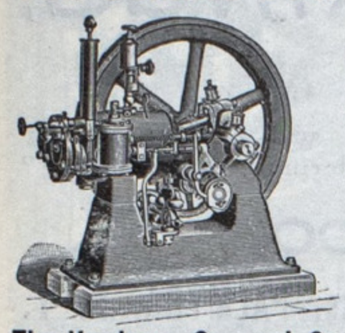

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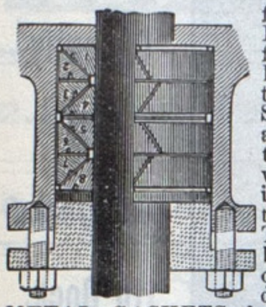

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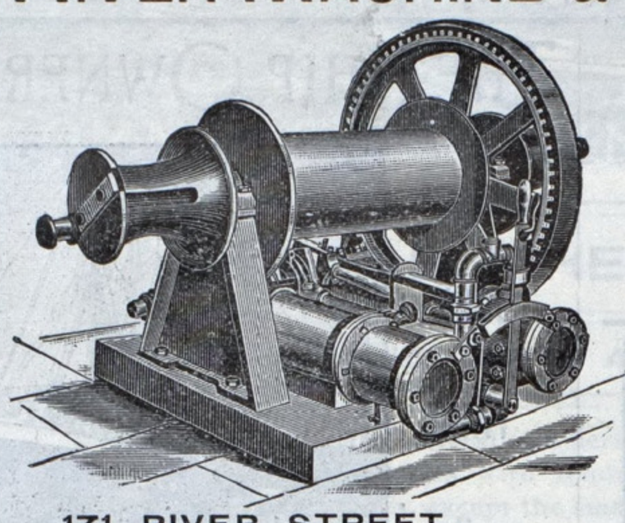

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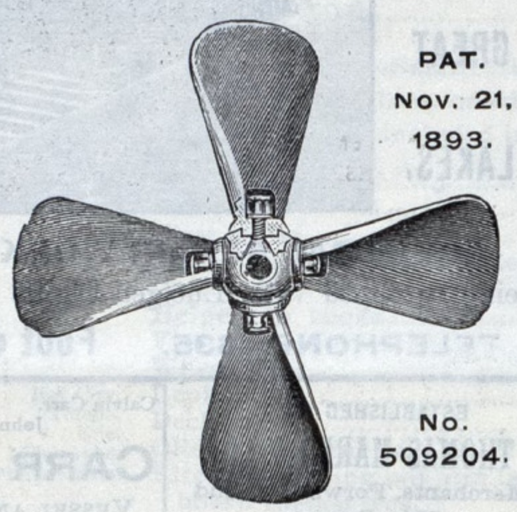

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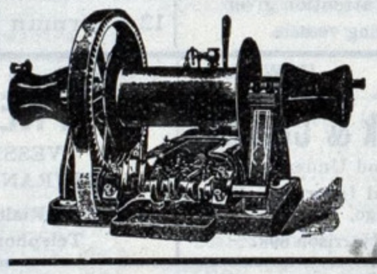

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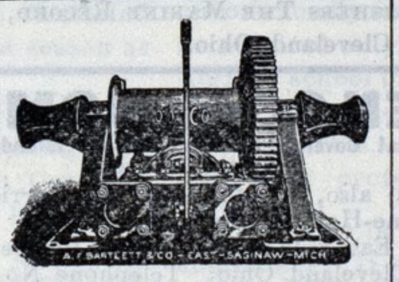

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OFFICE OF ENGINEER 9TH AND 11TH LIGHT-HOUSE DISTRICTS, Detroit, Mich., March 25, 1895. Sealed proposals will be received at this office until 3 o'clock p. m. of Monday, the 15th day of April, 1895, for furnishing seven skeleton iron towers for Hay Lake Channel, St. Mary's River, Michigan. Plans, specifications, forms of proposal, and other information may be obtained on application to the undersigned. The right is reserved to reject any or all bids, and to waive any defects. M. B. ADAMS, Major, Corps of Engineers, U. S. A., Light-House Engineer. 13–14

OFFICE OF LIGHT-HOUSE BOARD, Washington, D. C., March 11, 1895. Sealed proposals will be received at this office until 2 o'clock p. m., on Thursday, the 11th day of April, 1895, for furnishing the materials and labor of all kinds necessary for the construction and delivery of one first-class composite Light-Vessel No. 66 for a fixed sum for said vessel delivered. Forms of proposal, plans and specifications, showing what is required, can be had or seen by applying to this office. The right is reserved to reject any or all bids and to waive any defects. JOHN G. WALKER, Rear-Admiral, U.S.N., Chairman. 11–12

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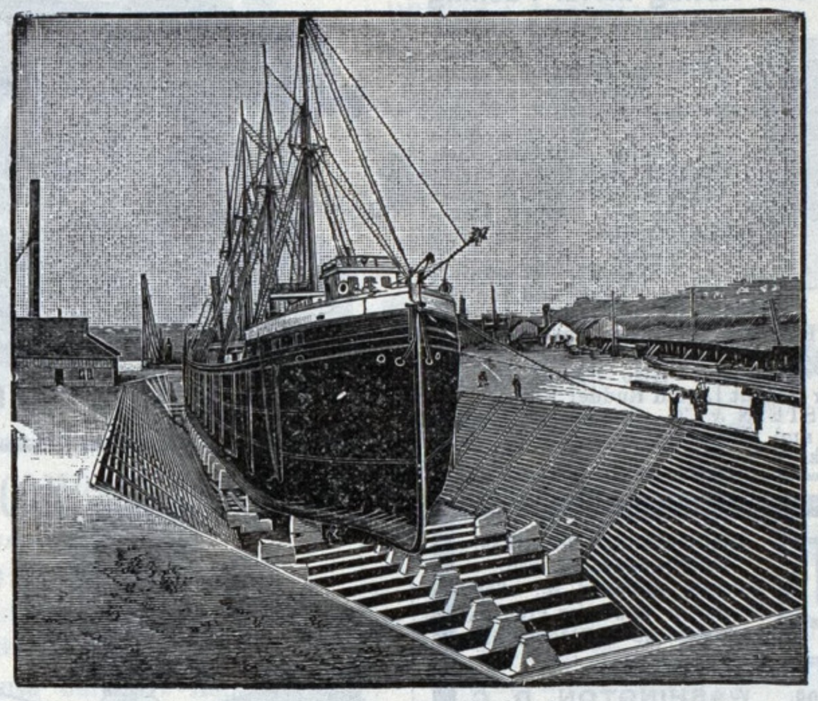

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